

CLAIMS

1. An apparatus for manufacturing a mold, the apparatus comprising:
 - a heating basin for liquefying and maintaining a heat sensitive pliable substance in a liquid form;
 - 5 - a pump for pumping out from the heating basin the liquefied heat sensitive pliable substance;
 - a cooler for receiving and cooling the heat sensitive pliable substance pumped out of the heating basin to a predetermined texture;
 - 10 - an applicator for ejecting the heat sensitive pliable substance out from the apparatus and into a forming tool; and
 - a positioning system for moving the applicator and for building a mold by successive application of a formed thread of heat sensitive pliable substance.
- 15 2. An apparatus according to claim 1, wherein the heat sensitive pliable substance is selected from the group consisting of wax and any other malleable plastic.
3. An apparatus according to claim 1, wherein the heating basin comprises a heat exchanger.
- 20 4. An apparatus according to claim 3, wherein the heat exchanger is an electrical heating element.
5. An apparatus according to claim 3, wherein the heat exchanger is a hot fluid circulating system

6. An apparatus according to claim 1, wherein the pump further includes a heating device.

5 7. An apparatus according to claim 1, wherein the cooler is in the shape of a longitudinal flexible tube, the tube having a diameter of less than 4 mm.

8. An apparatus according to claim 1, wherein the cooler comprises a coil tube submerged in a cooling fluid.

10 9. An apparatus according to claim 1, wherein the applicator is connected to a forming tool for projecting and directing the heat sensitive pliable substance on the mold.

10. An apparatus according to claim 1, wherein the forming tool is a nozzle adapted to extrude various shape of thread by modifying the angle from the direction of the movement of the applicator.

15 11. A process for producing a heat sensitive pliable mold, the process comprising the steps of

a) selecting a heat sensitive pliable substance,

b) liquefying the heat sensitive pliable substance to obtain a liquid substance,

20 c) cooling the liquid substance to obtain a semi-rigid substance, and

d) applying the semi-rigid substance obtained in step c) with an applicator so as to allow the heat sensitive pliable substance to harden into a definite shape and thereby form a mold.

12. A process according to claim 11, further comprising the step of melting the mold obtained in d) in a heating basin for the manufacture of a new mold.
- 5 13. A process according to claim 11, further comprising the step of melting the mold outside the basin and pumping the liquid heat sensitive substance in the heating basin.
14. A process according to claim 11, wherein the molding step d) comprises extruding the semi-rigid substance through a forming tool.
- 10 15. A process according to claim 9, wherein the heat sensitive pliable substance is selected from the group consisting of wax and any other malleable plastic.
16. A process according to claim 14, wherein the forming tool is adapted to extrude thread with various curvature by modifying the angle from the direction of the movement of the applicator.
- 15 17. A process according to claim 11, wherein the molding step d) comprises moving the applicator along a three dimension path and applying the thread side by side and overcoating the path.